

Capital Investment and the Decision to Lobby

by

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Abstract:

This study tests for and finds a large and significant tradeoff between capital expenditures and lobbying expenditures, as firms that lobby tend to have substantially lower capital expenditures than firms that do not lobby. To draw stronger causal inferences about the firms' decision to lobby instead of to invest in assets, we conduct a series of difference-in-difference tests that examine firm-level capital expenditures (CAPEX) surrounding legislation that adversely affected the benefits associated with lobbying activity. Consistent with our expectation, CAPEX increased significantly for firms that had lobbied vis-à-vis firms that had not lobbied during the post-legislation period. These findings suggest that firms use resources to acquire political connections instead of investing in CAPEX. This tendency has broad regulatory and macroeconomic implications.

Keywords: CAPEX; Capital Investment; Corporate Lobbying; Political Connections; Rent Seeking; Capital Budgeting

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I. INTRODUCTION

How a firm allocates capital and evaluates important investment decisions is fundamental to corporate finance. These types of decisions are not only important to the firm, but they can also have broad societal impact. For instance, much of the theory relating to macroeconomic growth suggests that, in the steady-state, economic growth is a function of capital investment (Arrow et al., 1961; Solow, 1962; Romer, 1986 and 1990; Lucas, 1988; among others). Empirically, several studies have documented a link between physical capital accumulation and economic growth (Mankiw, Romer, and Weil, 1992; DeLong and Summers, 1991 and 1993; Barro and Sala-i-Martin, 1995; Islam, 1995, Caselli, Esquivel, and Lefort, 1996; and Bond, Leblebicioglu, and Schiantarelli, 2010). However, a profit-maximizing firm must evaluate the potential tradeoffs between various investment opportunities. The literature regarding the value effects associated with capital investment opportunities are somewhat mixed. On one hand, several studies show that, at the announcement of new capital investment projects, firms experience positive stock price reactions (McConnell and Muscarella, 1985; Woolridge, 1988). On the other hand, however, existing research suggests that the stock-price reaction to these announcements depends on the quality of the investment opportunity (Chung, Wright, and Charoenwong, 1998), the cash-flow coverage of the firm (Vogt, 1997); and the availability (or lack thereof) of different investment projects (Chen and Ho, 1997).

While the literature examining the value effects of capital investment opportunities has failed to reach a consensus, the value effects associated with firm-level investments in political activity are generally shown to be positive. Recently, Borisov, Goldman, and Gupta (2016) show that, in response to an exogenous (negative) shock to lobbying activity, the stock prices of firms that lobby decrease significantly. Observing that political connections directly influence the value

of firms is consistent with findings in Roberts (1990), Hillman, Zardkoohi, and Bierman (1999), Fisman (2001), Faccio (2006), Werner (2017), Ridge, Ingram, Abdurakhmonov, and Hasija (2019), Greiner and Lee (2020), and Xue et al. (2022). Any direct link between firm value and political connections can likely be explained by the fact that politically-connected firms have lower costs of capital (Johnson and Mitton, 2003; Chiu and Joh, 2004; Cull and Xu, 2005; and Khwaja and Mian, 2005), lower tax liabilities (Richter, Samphantharak, and Timmons, 2009), more favorable judicial outcomes (Unsal, Hassan, and Zirek, 2017), and significantly less operating expenses (Hochberg, Sapienza, and Vissing-Jorgensen, 2009). A number of other studies highlight the role that political connections play in producing what have been referred to as non-market outcomes (Boddeyn and Brewer, 1994; Hillman and Hitt, 1999; Schuler, Rehbein, and Cramer, 2002; Frynas, Mellahi, and Pigman, 2006; Holburn and Vanden Bergh, 2014; Adomako et al., 2023; among others). Specifically, political connections have been shown to lead to greater protection against fraud (Yu and Yu, 2011) and more favorable regulatory treatment during times of crises (Faccio, Masulis, and McConnell, 2006; Duchin and Sosyura, 2012; and Blau, Brough, and Thomas, 2013).

Hadani and Schuler (2013), however, show that accounting performance worsens when focusing on cumulative political investment – suggesting that some political activity affects firm value differently than other types of political activity. In addition, Hadani and Schuler (2013) find that the direct link between political activity and market performance is driven by firms in regulated industries.

Motivated by the evidence that the value effects associated with investments in capital expenditures are somewhat weak while the value effects associated with investments in political activity are generally positive, this study tests whether firms substitute investment in capital assets

with investment in lobbying expenditures. A profit-maximizing firm might observe the consistent value effects associated with political activity and choose to invest in these types of connections instead of traditional capital investment opportunities. Understanding how firms allocate capital between asset accumulation and investment in political connections is important for several reasons. First, to the extent that aggregated firms' capital investment decisions indeed influence the macroeconomy, then substituting capital investment for lobbying expenditures may harm economic output. For instance, as early as Gould and Amaro-Reyes (1983), research has found that a corrupt interaction between the private sector and the public sector is negatively associated with economic growth and development. In fact, Mauro (1995) suggests that the mechanism explaining the negative link between private-public-sector corruption and economic growth is that corruption crowds out private investment. In the framework of our study, the substitution effects between capital investment and corporate lobbying provide some micro-level evidence of Mauro's (1995) conjecture. Second, our tests can also shed light on the market's view of obtaining political connections. This view may be strong enough to incentivize firms to forego investment in physical capital – traditionally the primary investment decision of the firm – and instead increase the level of political connections. The main objective of our study is to test this assertion.

Using a large sample of firms for nearly a 20-year period, we conduct an initial set of univariate and multivariate tests that examine the association between lobbying expenditures and capital investment expenditures (CAPEX). Our univariate tests show that CAPEX (scaled by total assets) is approximately 7% lower for firms that lobby when compared to firms that do not lobby. In our multivariate tests, when controlling for several firm-specific characteristics, we find that firms that lobby spend 10.4% to 11.2% less on CAPEX (scaled by assets) than firms that do not lobby. We also find that the amount (or magnitude) of lobbying expenditures by firm is negatively

associated with CAPEX. Our multivariate tests show that for every one standard deviation increase in lobbying expenditures (scaled by assets), CAPEX (scaled by assets) decreases .13%. To put this number in perspective, .13% represents approximately 2.5% of the CAPEX-to-Asset ratio for the average firm in our sample. These findings highlight the economic significance of our results. In other tests, we find that our initial results are robust to specific controls for the size of the firm, measured as market capitalization or sales, and the net income of the firm.

We recognize that observing a negative correlation between CAPEX and lobbying expenditures is not tantamount to observing a causal relation. Thus, in the second part of our analyses, we conduct a series of difference-in-difference tests surrounding legislation that was enacted to curb the pecuniary benefits associated with corporate lobbying activity. In particular, we use the Honest Leadership and Open Government (HLOG) Act of 2007 as a plausible exogenous (negative) shock to lobbying activity. If indeed firms substitute capital investment with lobbying expenditures, then we would expect that CAPEX would increase for firms that traditionally engaged in lobbying activity compared to firms that had not during the post-legislation period when the benefits of lobbying decreased. Results show that relative to firms that did not lobby, firms that previously lobbied significantly increased their CAPEX after the passage of the HLOG Act. In economic terms, the difference-in-difference estimator ranges from .10% to .17%, depending on the specification. We find that these results are robust to the inclusion of different control variables and different time windows surrounding the enactment of the HLOG Act. Additionally, to examine the robustness of our results, we conduct a series of placebo tests that randomly select 10 event dates that are not associated with the HLOG Act. In these placebo tests, each of the estimated difference-in-difference coefficients is not statistically different from zero. On average – across the 10 placebo events – the difference-in-difference coefficient is -

0.0004 (average t-statistic = -0.64). These findings suggest that observing a positive difference-in-difference estimator surrounding the HLOG Act is unlikely to be spurious and suggests that firms do appear to substitute capital investment with corporate lobbying activity.

Our findings contribute to the literature that focuses both on lobbying activity and firm-level capital investment. First, while prior research highlights potential negative social effects associated with lobbying activity (Stigler, 1971; Grossman and Helpman, 1994; Baldwin and Robert-Nicoud, 2007; and Blau, 2017), our findings contribute to this idea by suggesting that capital investment is lower when firms decide to become politically connected. As mentioned above, this tradeoff has important macroeconomic implications. Second, a long stream of research attempts to identify factors that influence the capital investment decision (Meyer and Kuh, 1957; Griliches and Wallace, 1965; Myers and Majluf, 1984; among others). Our findings contribute to this line of research by suggesting that, in an ever-increasing political environment, firms may choose to become more politically engaged instead of increasing capital expenditures. From a more practical standpoint, the results from our tests highlight one of the more subtle allocation decisions firms must make.

The rest of this paper follows. Section 2 provides a brief discussion of the related literature that motivates our hypothesis. Section 3 describes the data. In Section 4, we present the results from our empirical tests. Section 5 offers some concluding remarks.

II. RELATED LITERATURE

II.A. Firm Investment Decisions

The literature on firm investment decisions is extensive. In this subsection, we attempt to briefly describe this literature as it relates to our hypothesis, which is that firms will substitute capital investment opportunities with attempts to become politically connected through lobbying

activity. Beginning as early as Meyer and Kuh (1957) and Griliches and Wallace (1965), researchers have attempted to identify factors that explain a firm's investment decisions. Much of this research focuses on financial constraints (see e.g., Myers and Majluf, 1984; Fazzari, Hubbard, and Petersen, 1987; Fazzari and Petersen, 1993; Rauh, 2006; Fee, Hadlock, and Pierce, 2009; Duchin, Ozbas, and Sensoy, 2010; Boulton, Chen, and Wang, 2011; Morellec and Schurhoff, 2011; among others) or cash-flow sensitivities (see e.g., Gilchrist and Himmelberg, 1995; Kaplan and Zingales, 1997; Kadapakkam, Kumar, and Riddick, 1998; Kaplan and Zingales, 2000; Lyandres, 2007; Hirth and Viswanatha, 2011). These studies discuss the important interaction between financing decisions and investment decisions.

Other studies suggest that firms make investment decisions using stock prices as their guide. Allen (1993), Holmstrom and Tirole (1993), Boot and Thakor (1997), and Subrahmanyam and Titman (2001) highlight how prevailing stock valuations matter when firms attempt to make investment decisions. The empirical studies on this topic revolve around two ideas. First, firm investment decisions will depend heavily on potential mispricing in the firms' stock price (see e.g., Morck et al., 1990; Blanchard et al., 1993; Kaplan and Zingales, 1997; Baker et al., 2003; Chen, Goldstein, and Jiang, 2007; Polk and Sapienza, 2009; and Ovtchinnikov and McConnell, 2009). Second, the investment behavior of firms is driven by the valuations of peer firms (Fracassi, 2012; Doubal, Parsons, and Titman, 2012; Ozoguz and Rebello, 2013; Foucault and Fresard, 2014). That is, when peer firms' stock prices increase, a firm is more likely to engage in capital investment.¹ This latter stream of research is important in light of our hypothesis. To the extent that these peer effects are generalizable for all types of investment opportunities, then when a particular firm sees that other peer firms are engaging in political activity, the firm in question is perhaps more likely

¹ These findings are consistent with literature that highlights peer effects more generally (Gilbert and Lieberman, 1987; Leary and Robert, 2014; Hoberg and Phillips, 2011).

to become politically engaged. This might be particularly true when a firm observes an increase in the stock prices of peer firms that engages in political activity. Given the capital constraints that exist in all firms, lobbying expenditures are likely to crowd out other capital investment opportunities. We provide tests of this hypothesis below.

II.B. The Political Engagement of Firms

There exists a broad literature that examines firm-level political engagement. Stigler (1971) was among the first to examine the interaction between governments and firms. Other studies (Peltzman, 1976; Shleifer and Vishny, 1994) discuss how political engagement can provide benefits to firms and ultimately affect firm value. For instance, politically-connected firms might be able to create regulatory barriers to entry, which can lead to higher valuations. Consistent with this theory, Morck, Sepanski, and Yeung (2000) find that politically-connected firms face less competition than non-connected firms. As mentioned previously, Borisov, Goldman, and Gupta (2016) use the 2006 guilty plea of lobbyist Jack Abramoff as a (negative) exogenous shock to lobbying activity, and find that firms that had lobbied previously experience significant stock price reactions to the plea. These results are consistent with an already established literature that suggests that political connections can enhance the value of firms. For instance, Roberts (1990) shows that the unanticipated death of a seated U.S. senator results in significant stock price declines for firms that may have been politically connected with the senator. These results again support the idea that the market values political connections. In a different study, Johnson and Mitton (2003) show that, due to the Asian financial crisis, Malaysia had to reduce government subsidies to politically-connected firms. In economic terms, these reductions accounted for some \$60 billion in market value losses. Similar inferences can be drawn in Fisman (2001) and Faccio (2006). The positive value effects that are associated with firm-level political engagement are important in light of the

discussion in the previous subsection. To the extent that firm investment decisions are based on (i) the value of other peer firms and (ii) the investments that are being undertaken by those peer firms, our hypothesis that political activity, such as lobbying expenditures, will crowd out traditional capital investment opportunities is compelling.

As mentioned above, these value effects are likely explained by a wealth of pecuniary benefits that might be associated with political connections. Unsal, Hassan, and Zirek (2017) show that politically-connected firms are more likely to receive favorable judicial outcomes than non-connected firms. Likewise, Yu and Yu (2011) show that those firms with political connections have a higher likelihood of being detected for fraud. In other studies, Faccio (2006) using a large sample of international firms to show that those that are most connected are most likely to receive governmental bailouts. Both Duchin and Sosyura (2012) and Blau, Brough, and Thomas (2013) find that politically-connected banks had a significantly higher likelihood of receiving funds from the 2008 Troubled Asset Relief Program (TARP). Other related studies find that connected firms experience lower costs of capital, lower tax liabilities, and ultimately, lower operating costs (Chiu and Joh, 2004; Cull and Xu, 2005; Khwaja and Mian, 2005; Richter et al., 2009; Hochberg et al., 2009).

These studies tend to highlight the firm-level benefits associated with becoming politically connected. Additionally, several studies suggest that the engagement of political activity might be welfare reducing overall. For instance, Stigler (1971) suggests that regulation might be created due to the political activity of a relatively small group of firms, which can adversely affect the competitive market place. Similar inferences can be drawn in Grossman and Helpman (1996) whose theory predicts that special interests (say, firms that are politically engaged) can influence the entire platform of a political party. Theory in Baldwin and Robert-Nicoud (2007) indicates that

firms that lobby attempt to influence policy. However, in growth industries, where there are low barriers to entry, expansion tends to crowd out the rents being sought by the lobbying firms. In non-growth industries, where entry is more difficult, rents are higher causing lobbying firms to engage heavier in the political process. These lobbying efforts are promoted by firms in less competitive industries that are less efficient due to the lack of competition. Therefore, greater rents are being had by less efficient firms, which may have harmful welfare effects. More recently, Blau (2017) shows that banks that lobbied before the 2008 financial crisis were more likely to participate in the Federal Reserve's emergency lending facilities. This participation is likely due to a new type of moral hazard that suggests that firms that become politically connected might feel as though they have purchased some sort of synthetic insurance, which might incentivize greater risk-taking, thus leading the most politically-connected banks to the Fed's emergency lending facilities during times of crises. In the framework of our study, we also test whether political activity by firms might have adverse effects on society at large. Given the theoretical and empirical literature that highlights the importance of the influence of capital investment on economic growth and development, identifying the substitutability between lobbying activity and capital investment opportunities helps one understand the ramifications of firm-level political activity.

III. DATA DESCRIPTION

The data used in the analysis come from two primary sources. From Compustat annual filings, we obtain financial statement variables and information describing the firms' stock. From the Center for Responsive Politics (CRP), we gather data on annual lobbying expenditures by firm. The lobbying expenditures are collected from disclosure reports that are mandated in the Lobbying Disclosure Act of 1995. These reports are filed with the Office of Public Records and formalized

by the CRP. Our sample period runs from 1998 to 2016, and consists of an unbalanced panel of 82,215 firm-year observations.

[Insert Table 1 Here]

In Table 1, we provide summary statistics for the variables used throughout the empirical analysis. The first group of variables in Table 1 describes the sample firms' capital expenditures. *CAPEX* is the amount of capital expenditures in \$millions.² The average firm in our sample expends approximately \$271.19 million on capital each year, with a standard deviation of roughly \$1,432.94 million. Since there is extensive heterogeneity in *CAPEX* among the sample firms, we scale it by total assets for comparison purposes. *CAPEX/Assets* is this ratio of capital expenditures to total assets. For the average (median) firm, capital expenditures make up about 5.17 (2.80) percent of total assets.

The second group of variables in Table 1 describes the sample firms' lobbying activities. *Lobby* is an indicator variable equal to one if a given firm has positive lobbying expenditures in a particular year and zero otherwise. We show that roughly 7.51 percent of firms engage in lobbying activities in a given year. *LobbyAmt* is the dollar amount of lobbying expenditures. The average firm spends about \$71,800 on lobbying in a given year, but we note that this number is biased downwards, as many firms do not engage in lobbying, i.e. the median *LobbyAmt* is zero. Among firms that lobby, the average *LobbyAmt* is \$955,651. We also scale *LobbyAmt* by total assets, *LobbyAmt/Assets*, and show that for the average firm in our sample, lobbying expenditures are about 0.22 percent of its total assets, but with a standard deviation of 6.39 percent.

In the third group of variables in Table 1, we present other balance sheet and income statement characteristics that describe the firms in our sample. *Sales* is the amount of annual

² *CAPEX* represents the funds added to property, plant, and equipment, excluding amounts arising from acquisitions.

revenue in \$millions. The average firm in the sample reports about \$3,810.94 million in sales in a given year. *Assets* is the total assets in \$millions. While the average firm in the sample reports annual total assets of \$12,242.66, the median firm files \$644.23. *Net Income* is the annual reported net income in \$millions. The average firm has an annual net income of \$323.70 million. *D/E* is the debt-to-equity ratio, defined as total liabilities divided by total assets less total liabilities. The average firm in our sample has about \$2.59 in debt for every dollar of equity.

In the final group of variables in Table 1, we describe measures related to the firms' stock. *Price* is the closing share price on the last day of the calendar year. The average firm's share price is \$42.14, while the median firm's share price is \$17.90. *Mkt Cap* is the market capitalization on the last day of the calendar year, or the closing share price multiplied by shares outstanding. The average firm has a stock market capitalization of \$5,226.29 million. *Turnover* is the amount of total trading volume scaled by shares outstanding on the last day of the calendar year. *Price Range* is the difference between the natural log of the highest stock price during the year and the natural log of the lowest stock price during the year. The average firm has a stock turnover ratio of 32.76 times and a price range of 0.7244.

IV. EMPIRICAL RESULTS

IV.A. Substitutability of Capital Expenditures and Lobbying Activity – Univariate

In this subsection, we present the results from a series of univariate tests comparing characteristics between firms that engage in lobbying activity and those that do not. The results from this analysis are reported in Table 2. Consistent with our hypothesis, firms that allocate funds towards lobbying activities do so at the expense of capital expansion. For instance, firms that lobby have an average *Capex/Assets* ratio that is 35 basis points lower than those that do not lobby. More specifically, the average firm that lobbies has a *Capex/Assets* ratio of 0.0484, while the average

firm that does not lobby has a *Capex/Assets* ratio of 0.0519. While these initial tests suggest a tradeoff between capital expenditures and lobbying, we note that many other characteristics differ between firms that lobby and those that do not.

[Insert Table 2 Here]

Also in Table 2, we find that firms that lobby have higher revenue, more assets, larger net income, greater market capitalization, and less stock price volatility than those that do not lobby. In particular, we show that the average annual sales for firms that lobby is \$12,747.26 million, which is \$9,662.27 million more than for those that do not lobby. Additionally, the average annual assets (market capitalization) for firms that lobby is \$32,382.55 (\$17,879.67) million, compared to \$10,606.58 (\$4,198.39) million for those that do not lobby. Furthermore, the average annual net income for firms that lobby is \$785.40 million more than for firms that do not lobby.

The results above suggest that firms that choose to lobby are fundamentally different than those that abstain from lobbying. Therefore, to make meaningful inferences with regards to the tradeoff between capital expenditures and lobbying, we must control for these differences in a multivariate setting.

IV.B. Substitutability of Capital Expenditures and Lobbying Activity – Multivariate

In this subsection, we examine whether there is a substitution effect between capital expenditures and lobbying, controlling for other characteristics that might affect capital spending. We begin by estimating specifications of the following regression equation on an unbalanced sample of firm-year observations:

$$Capex/Assets_{i,t} = \beta_1 Lobby_{i,t} \text{ or } LobbyAmt/Assets_{i,t} + \gamma'X + \tau + \alpha + \varepsilon_{i,t} \quad (1)$$

where the dependent variable is the ratio of capital expenditures to total assets (*Capex/Assets*) for firm i in year t . The independent variable of interest is set to one of two measures capturing a

firm's lobbying activity in a given year. *Lobby* is an indicator variable equal to one if a given firm has positive lobbying expenditures in a particular year and zero otherwise. *LobbyAmt/Assets* is the ratio of lobbying expenditures to total assets. In the matrix X , we include the following as control variables: $\text{Ln}(\text{Sales})$, $\text{Ln}(\text{Assets})$, $\text{Ln}(\text{Net Income})$, D/E, $\text{Ln}(\text{Price})$, $\text{Ln}(\text{MktCap})$, *Turnover*, and *Price Range*. To control for potential outliers, we standardize the unscaled variables by assuming the natural log form of the measures. We also include year fixed effects (τ). To avoid violating the full column rank assumption for consistent estimation, we do not include firm fixed effects due to the invariant nature of the categorical variable, *Lobby*. We report the estimated coefficients from equation (1) in Table 3, with t-statistics in parentheses obtained from robust standard errors clustered across both firm and year.

[Insert Table 3 Here]

In Columns [1] and [2] of Table 3, we report the results from estimating equation (1) with and without year fixed effects, while including *Lobby* as the variable of interest. In Column [1] of Table 3, we find that the estimated coefficient on *Lobby* is -0.0058, which is significant at the 0.01 level. Therefore, holding constant firm/stock characteristics, the average *Capex/Assets* is 58 basis points lower for firms that lobby, relative to those that do not lobby. In Column [2] of Table 3, we find that the estimated coefficient on *Lobby* is -0.0054 and statistically significant at the 0.01 level. In economic terms, these results indicate the average *Capex/Assets* ratio is 54 basis points lower for firms that *Lobby*, relative to those that do not lobby, holding constant time-series variation in capital expenditures and firm/stock characteristics. The results from this analysis suggest that there is a negative association between capital expenditures and lobbying.

In Column [3] and [4] of Table 3, we display the results from estimating equation (1) with and without year fixed effects, when inserting *LobbyAmt/Assets* as the explanatory variable of

interest. In Column [3] of Table 3, we show that the estimated coefficient on *LobbyAmt/Assets* is -2.0609 and significant at the 0.01 level. Economically, this means that for a one standard deviation increase in the amount of lobbying expenditures to total assets, average capital expenditures to assets increases by 13 basis points – holding constant firm/stock characteristics. Similar to before, in Column [4] of Table 3, we find that an increase in lobbying is associated with a decrease in capital expenditures, *ceteris paribus*. More specifically, holding constant time-series variation in capital expenditures and firm/stock characteristics, a one standard deviation increase in *LobbyAmt/Assets* is associated with a 12.5 basis point decrease in *Capex/Assets*.

To ensure that the results presented above are not driven by productive large firms, we partition the sample by assets, sales, and net income. The results of this analysis are found in Table 4. We re-estimate equation (1) separately for firm-year observations that fall below (Panel A) and above (Panel B) the sample median firm characteristic. For brevity, we only report the estimated coefficients on the variables of interest that capture lobbying activity, i.e. *Lobby* and *LobbyAmt/Assets*. As before, we include firm/stock controls and year fixed effects. We also report t-statistics in parentheses obtained from robust standard errors clustered at the firm and year levels.

[Insert Table 4 Here]

In Panel A of Table 4, we find a highly significant negative relation between lobbying and capital investment for smaller firms with fewer sales and lower net income. For instance, in Columns [1], [3], and [5], we find that the coefficients on *Lobby* are negative and significant at the 0.01 level. Therefore, for firms with below-median assets, sales, and net income, lobbying decreases capital expenditures by 159, 194, and 113 basis points, respectively. In Columns [2], [4], and [6], we report that the coefficients on *LobbyAmt/Assets* are negative and significant at the 0.05 or 0.01 levels. In economic terms, a one standard deviation increase in *LobbyAmt/Assets* is

associated with a decrease in capital expenditures of 12.2, 12, and 8.5 basis points for firms with below-median assets, sales, and net income, respectively.

In Panel B of Table 4, we continue to show a negative association between lobbying and capital expenditures for larger firms with more sales and greater net income. While the magnitudes of the results when the indicator measure *Lobby* is the independent variable of interest appear to be lower for high book value firms, relative to low book value firms, the opposite appears to be true when the continuous measure *LobbyAmt/Assets* is the explanatory variable of interest. This is likely because the difference in lobbying activity among high book value firms is much more stark, i.e. zero dollars spent on lobbying for the majority of high book value firms, but a substantial amount spent by some. In Columns [1], [3], and [5], we find that the coefficients on *Lobby* are only significant when the sample is partitioned into above-median assets and sales, but not net income. Specifically, capital expenditures to total assets are between 26 and 28 basis points lower for firms that lobby with above-median assets and sales, relative to similar firms that do not lobby. In Columns [2], [4], and [6], we find that the estimated coefficients on *LobbyAmt/Assets* are negative and significant in each of the model specifications. A one standard deviation increase in *LobbyAmt/Assets* is associated with a decrease in capital expenditures of 198, 94, and 192 basis points for firms with above-median assets, sales, and net income, respectively.

Overall, the results in Tables 3 and 4 provide strong support for the notion that capital expenditures and lobbying are negatively related. Therefore, there appears to be substitutability between lobbying activities and capital creation, which is of great interest to all stakeholders of the firm. However, establishing a negative relation between capital expenditures and lobbying is not tantamount to observing a causal link.

IV.C. Capital Expenditures around HLOG Act – Difference-in-Difference

In this subsection, we use the passage of the Honest Leadership and Open Government (HLOG) Act of 2007 as an exogenous shock to the level of corporate lobbying. This legislation was enacted, at least in part, to curb the pecuniary benefits associated with lobbying. We expect that after the passing of this particular legislation, firms are less likely to fund lobbying activities, and can therefore free up resources to allocate towards capital investment. Accordingly, we expect those firms that funded lobbying activities before the HLOG Act will have more to expend on capital investments after, *ceteris paribus*. We estimate the following difference-in-difference equation on a modified unbalanced sample of firm-quarter observations:

$$Capex/Assets_{i,t} = \beta_1 Treat_{i,t} + \beta_2 Post_t + \beta_3 Treat_{i,t} \times Post_t + \gamma' X + \alpha + \varepsilon_{i,t} \quad (2)$$

where the dependent variable is the ratio of capital expenditures to total assets (*Capex/Assets*) for firm i in year t .³ *Treat* is a categorical variable equal to one if the firm has positive lobbying expenditures in a given year and zero otherwise. *Post* is an indicator variable equal to one if the observation is stock-quarter observation is after the passage of the HLOG Act – zero otherwise. We examine three different quarterly event windows [-12, 12], [-10, 10], [-8, 8]. The interaction between *Treat* and *Post* is the difference-in-difference estimator. Similar to before, in the matrix X , we include the following as control variables: $\ln(Sales)$, $\ln(Assets)$, $\ln(Net\ Income)$, D/E, $\ln(Price)$ $\ln(MktCap)$, *Turnover*, and *Price Range*. We do not include year fixed effects as to not violate the full column rank assumption for consistent estimation. We report the estimated coefficients from equation (2) in Table 5, with t-statistics in parentheses obtained from robust standard errors clustered across both firm and time.

[Insert Table 5 Here]

³ We obtain quarterly financial statement data from Compustat to provide greater precision/granularity to the difference-in-difference estimation.

In Columns [1] and [2] of Table 5, we report the results of estimating equation (2) in the 12-months before and 12-months after the passage of the HLOG Act. In the restricted model, without controls, we find that firms that lobbied before the HLOG Act, relative to those that did not experience an increase in capital expenditures by 17 basis points. After controlling for other known stock and firm characteristics, we continue to find a significant increase in capital investment by firms that lobbied before the act vis-à-vis those that did not. For instance, the coefficient on the interaction term in the second column is 0.0015, and insignificant at the 0.01 level. This means that other factors held constant, firms that lobbied before the HLOG Act, compared to those that did not exhibit an increase in capital investment by 15 basis points.

We find similar results to those stated above when narrowing in around the date of passage. For example, in Column [4], we show that other factors held constant, capital expenditures increase by 13 basis points more for firms that lobbied, relative to those that did not lobby, in the 10 quarters following the passing of the HLOG Act. When examining the eight quarters before and after the passage of the HLOG Act, we find that the increase in capital expenditures for firms that lobbied versus those that did not is reduced to 10 basis points, holding constant firm/stock characteristics.

Overall, the results in Table 5 provide strong support for our hypothesis regarding the substitutability between capital investment and lobbying. When lobbying is constrained by regulation, we see an increase in capital expenditures by firms that lobby the most. This indicates that corporate managers, to a certain extent, must choose between capital investment and lobbying, which has important economic implications.

IV.D. Capital Expenditures around Placebo Events – Difference-in-Difference

To provide some robustness to the results above, we also estimate a series of placebo event studies. More specifically, we re-estimate equation (2) in the eight quarters around 10 different

randomly selected placebo events. The results of this analysis are found in Table 6. Importantly, we do not find a single positive and significant coefficient on the interaction term between *Treat* and *Post*. In fact, the only significant coefficient in the entire analysis is found in Column [4] for the second quarter of 2003. Here we find that for firms that lobby vis-à-vis those that do not, capital spending decreases by 24 basis points, other factors held constant. These tests provide validity for our empirical design of using the HLOG Act as an exogenous shock to the level of corporate lobbying.

[Insert Table 6 Here]

V. CONCLUSION

Companies operate in a resource-constrained environment where money spent in one area can crowd out the ability to invest in other areas. In this paper, we examine the substitutability of lobbying expenditures and capital expenditures. Using a large sample of firms over a 20-year period, our univariate tests show that CAPEX (scaled by total assets) is approximately 7% lower for firms that lobby when compared to firms that do not lobby. In our multivariate tests, when controlling for firm-specific characteristics, we find that firms that lobby spend 10.4% to 11.2% less on CAPEX than firms that do not lobby. Furthermore, for every one standard deviation increase in lobbying expenditures, CAPEX decreases by 13 basis points. To put this number into perspective, 13 basis points represents approximately 2.5% of the CAPEX-to-Asset ratio for the average firm in our sample. These preliminary tests seem to suggest that corporations substitute capital expenditures with lobbying activities.

We recognize, however, that observing a negative correlation between CAPEX and lobbying expenditures is not tantamount to observing a causal relation. Accordingly, we conduct a series of difference-in-difference tests surrounding the Honest Leadership and Open Government

(HLOG) Act of 2007, which made it more difficult for corporations to lobby due to stricter disclosure requirements and restrictions on gifts to members of Congress and their staff. Therefore, we use the passing of the HLOG Act as a negative exogenous shock to lobbying activity. If firms indeed substitute capital investment with lobbying expenditures, then we would expect CAPEX to increase for firms that lobby, relative to those that do not, after the passage of the legislation. Consistent with this conjecture, results show that relative to firms that did not lobby, firms that previously lobbied significantly increased their CAPEX after the passage of the HLOG Act. In economic terms, the difference-in-difference estimator ranges from 10 to 17 basis points depending on the model specification. We find that these results are robust to the inclusion of different control variables and different time windows surrounding the enactment of the HLOG Act. We also conduct a series of placebo tests that randomly select ten event dates that are not associated with the HLOG Act and do not find similar results. These results provide strong support for our hypothesis that lobbying activities crowd out capital investments.

We argue that our findings contribute to the literature on lobbying activity and firm-level capital investment. Consistent with research that highlights the potentially negative social effects associated with lobbying activity (Stigler, 1971; Grossman and Helpman, 1994; Baldwin and Robert-Nicoud, 2007; and Blau, 2017; Dahan and Hadani, 2023), we find that firms reduce their capital expenditures when they decide to become more politically connected, which can have negative macroeconomic implications. Second, in an increasing political environment, firms may choose to become more politically engaged instead of increasing capital expenditures. Thus, the firm-level investment decision (as described in Meyer and Kuh, 1957; Griliches and Wallace, 1965; Myers and Majluf, 1984; among others) should consider lobbying and other potential tradeoffs.

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Table 1. Summary Statistics

	Mean	Std. Deviation	25 th Percentile	Median	75 th Percentile
	[1]	[2]	[3]	[4]	[5]
Capex (\$millions)	271.19	1,432.94	1.41	12.08	80.59
Capex/Assets	0.0517	0.2911	0.0071	0.0280	0.0638
Lobby	0.0751	0.2636	0.0000	0.0000	0.0000
LobbyAmt (\$)	71,800.25	654,540.11	0.00	0.00	0.00
LobbyAmt/Assets	0.0022	0.0639	0.0000	0.0000	0.0000
Sales (\$millions)	3,810.94	16,112.38	73.29	348.44	1,655.24
Assets (\$millions)	12,242.66	95,713.18	142.17	644.23	2,843.53
Net Income (\$millions)	323.70	1,535.69	5.33	25.71	124.79
D/E	2.5856	30.2902	0.4724	1.0669	2.3294
Price	42.14	1,108.06	7.75	17.90	33.81
Mkt Cap (\$millions)	5,226.29	21,676.13	91.99	504.99	2,297.62
Turnover	32.76	6,909.03	0.28	0.79	1.77
Price Range	0.7244	0.6086	0.3721	0.5622	0.8812

Notes: The table reports statistics that summarize our sample. *Capex* is the measure of annual capital expenditures as reported by Compustat. *Capex/Assets* is the ratio of capital expenditures to total assets. *Lobby* is an indicator variable equal to unity if the firm in question has positive lobbying expenditures according to the Center for Responsive Politics – zero otherwise. *LobbyAmt* is the amount of lobbying expenditures for each firm. *LobbyAmt/Assets* is the ratio of lobbying expenditures to total assets. From Compustat, we include summary statistics on the following variables: *Sales* is the amount of annual revenue. *Assets* is the total assets. *Net Income* is the annual reported net income. *D/E* is the debt-to-equity ratio. From Compustat, we also report statistics on the following market variables: *Price* is the closing share price reported by Compustat on the last day of each calendar year. *MktCap* is the market capitalization (from Compustat) on the last day of the calendar year. *Turnover* is the amount of total trading volume scaled by shares outstanding. *Price Range* is the difference between the natural log of the highest stock price and the natural log of the lowest stock price.

Table 2. A Comparison of Firm Characteristics between Firms that Lobby and Those that do not Lobby

	Capex/Assets	LobbyAmt	Sales	Assets	Net Income	D/E	Price	Mkt Cap	Turnover	Price Range
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
Lobby = 1	0.0484	955,651	12,747.26	32,382.55	1,050.09	2.8379	43.64	17,879.67	14.1371	0.5856
Lobby = 0	0.0519	0	3,084.99	10,606.58	264.69	2.5650	42.01	4,198.39	34.2709	0.7357
Difference	-0.0035*** (-2.81)	955,651*** (34.08)	9,662.27*** (23.00)	21,775.97*** (11.37)	785.40*** (19.54)	0.2729 (0.83)	1.63 (0.38)	13,681.28*** (25.54)	-20.1338 (-0.71)	-0.1501*** (-23.72)

Notes: The table reports mean statistics for several variables by those firms that have positive lobbying expenditures and those that do not. We also include the difference in means along with corresponding t-statistics. We note that *Lobby* is an indicator variable equal to unity if the firm in question has positive lobbying expenditures according to the Center for Responsive Politics – zero otherwise. *Capex/Assets* is the ratio of capital expenditures to total assets. *LobbyAmt* is the amount of lobbying expenditures for each firm. *Sales* is the amount of annual revenue. *Assets* is the total assets. *Net Income* is the annual reported net income. *D/E* is the debt-to-equity ratio. *Price* is the closing share price reported by Compustat on the last day of each calendar year. MKT CAP is the market capitalization (from Compustat) on the last day of the calendar year. *Turnover* is the amount of total trading volume scaled by shares outstanding. *Price Range* is the difference between the natural log of the highest stock price and the natural log of the lowest stock price. T-statistics are reported in parentheses. *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 3. The Tradeoff Between Capital Expenditures and Lobbying Activity

	[1]	[2]	[3]	[4]
Lobby	-0.0058*** (-7.15)	-0.0054*** (-7.24)		
LobbyAmt/Assets			-2.0609*** (-3.21)	-1.9672*** (-3.06)
Ln(Sales)	0.0059*** (2.85)	0.0052** (2.13)	0.0058*** (2.78)	0.0051** (2.09)
Ln(Assets)	-0.0214*** (-2.99)	-0.0206*** (-2.77)	-0.0214*** (-2.99)	-0.0206*** (-2.77)
Ln(Net Income)	0.0097 (1.29)	0.0096 (1.28)	0.0097 (1.28)	0.0096 (1.28)
D/E	-3.2E-6 (-0.24)	-2.6E-6 (-0.19)	-3.2E-6 (-0.23)	-2.6E-6 (-0.19)
Ln(Price)	-0.0074*** (-3.43)	-0.0078*** (-4.10)	-0.0074*** (-3.40)	-0.0077*** (-4.07)
Ln(MktCap)	0.0084*** (3.22)	0.0089*** (3.09)	0.0083*** (3.20)	0.0088*** (3.07)
Turnover	0.0627*** (3.97)	0.0655*** (3.77)	0.0625*** (4.00)	0.0653*** (3.79)
Price Range	0.0047*** (3.92)	0.0042*** (4.57)	0.0047*** (3.88)	0.0042*** (4.53)
Constant	0.0886*** (2.72)	0.0730** (2.03)	0.0895*** (2.75)	0.0737** (2.05)
Adj. R ²	0.0067	0.0072	0.0067	0.0072
Year FEs	No	Yes	No	Yes
Robust SEs	Yes	Yes	Yes	Yes
N	82,215	82,215	82,215	82,215

Notes: The table reports the results from estimating the following equation using pooled firm-year data.

$$\text{Capex/Assets}_{i,t} = \beta_1 \text{Lobby}_{i,t} \text{ or } \text{LobbyAmt/Assets}_{i,t} + \gamma' \mathbf{X} + \tau + \alpha + \varepsilon_{i,t}$$

The dependent variable is the ratio of capital expenditures to total assets for each firm i in year t . The independent variable of interest is set to one of two lobbying measures. *Lobby* is an indicator variable equal to unity if a given firm has positive lobbying expenditures in a particular year – zero otherwise. *LobbyAmt/Assets* is the ratio of lobbying expenditures to total assets. We include the following as control variables: *Ln(Sales)* is the natural log of revenue for each firm in a given year. *Ln(Assets)* is the natural log of total assets. *Ln(Net Income)* is the natural log of net income. *D/E* is the debt-to-equity ratio. *Ln(Price)* is the natural log of the closing share price. *Ln(MktCap)* is the natural log of a firm's market capitalization. *Turnover* is the amount of total trading volume scaled by shares outstanding. *Price Range* is the difference between the natural log of the highest stock price and the natural log of the lowest stock price. We also include year fixed effects (τ). T-statistics, which are obtained from robust standard errors that account for clustering across by firms and years, are reported in parentheses. *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 4. The Tradeoff Between Capital Expenditures and Lobbying by Book Values*Panel A. Subsample Analysis – Firms with Low Book Values*

	Assets < Median		Sales < Median		Net Income < Median	
	[1]	[2]	[3]	[4]	[5]	[6]
Lobby	-0.0159*** (-6.84)		-0.0194*** (-4.04)		-0.0113*** (-6.61)	
LobbyAmt/Assets		-1.9084** (-2.19)		-1.8817** (-2.57)		-1.3250*** (-3.80)
Adj. R ²	0.0051	0.0051	0.0068	0.0068	0.0394	0.0393
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Robust SEs	Yes	Yes	Yes	Yes	Yes	Yes
N	41,104	41,104	41,103	41,103	41,104	41,104

Panel B. Subsample Analysis – Firms with High Book Values

	Assets >= Median		Sales >= Median		Net Income >= Median	
	[1]	[2]	[3]	[4]	[5]	[6]
Lobby	-0.0028 (-3.68)		-0.0026 (-3.59)		4.1E-5 (0.01)	
LobbyAmt/Assets		-30.9288 (-8.38)		-14.6605 (-4.98)		-30.0048 (-2.43)
Adj. R ²	0.1130	0.1137	0.0675	0.0678	0.0103	0.0103
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Robust SEs	Yes	Yes	Yes	Yes	Yes	Yes
N	41,111	41,111	41,112	41,112	41,111	41,111

Notes: The table reports the results from estimating the following equation using pooled firm-year data by various subsamples. In particular, we estimate the following equation for firms with low assets, low revenue, and low net income (in Panel A) and firms with high assets, high revenue, and high net income (in Panel B).

$$\text{Capex/Assets}_{i,t} = \beta_1 \text{Lobby}_{i,t} \text{ or } \text{LobbyAmt/Assets}_{i,t} + \gamma' \mathbf{X} + \tau + \alpha + \varepsilon_{i,t}$$

The dependent variable is the ratio of capital expenditures to total assets for each firm i in year t . The independent variable of interest is set to one of two lobbying measures. *Lobby* is an indicator variable equal to unity if a given firm has positive lobbying expenditures in a particular year – zero otherwise. *LobbyAmt/Assets* is the ratio of lobbying expenditures to total assets. We include the following as control variables: $\text{Ln}(\text{Sales})$ is the natural log of revenue for each firm in a given year. $\text{Ln}(\text{Assets})$ is the natural log of total assets. $\text{Ln}(\text{Net Income})$ is the natural log of net income. D/E is the debt-to-equity ratio. $\text{Ln}(\text{Price})$ is the natural log of the closing share price. $\text{Ln}(\text{MktCap})$ is the natural log of a firm's market capitalization. *Turnover* is the amount of total trading volume scaled by shares outstanding. *Price Range* is the difference between the natural log of the highest stock price and the natural log of the lowest stock price. We also include year fixed effects (τ). T-statistics, which are obtained from robust standard errors that account for clustering across by firms and years, are reported in parentheses. *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 5. Capital Expenditures Around the HLOG Act

	[-12, 12]		[-10, 10]		[-8, 8]	
	[1]	[2]	[3]	[4]	[5]	[6]
Treat	-0.0031*** (-10.73)	-0.0033*** (-11.54)	-0.0028*** (-8.82)	-0.0032*** (-9.84)	-0.0027*** (-7.32)	-0.0030*** (-8.17)
Post	-0.0026*** (-13.28)	-0.0022*** (-11.12)	-0.0025*** (-11.78)	-0.0022*** (-10.20)	-0.0019*** (-8.04)	-0.0017*** (-6.65)
Treat×Post	0.0017*** (4.44)	0.0015*** (4.09)	0.0014*** (3.40)	0.0013*** (3.09)	0.0011** (2.32)	0.0010** (2.04)
Ln(Sales)		-0.0020*** (-13.86)		-0.0019*** (-12.64)		-0.0021*** (-11.92)
Ln(Assets)		-0.0020*** (-13.49)		-0.0020*** (-12.40)		-0.0019*** (-10.10)
Ln(Net Income)		0.0003*** (2.56)		0.0003*** (2.81)		0.0005*** (3.63)
D/E		4.7E-8 (0.14)		-1.1E-7 (-0.33)		2.3E-8 (0.08)
Ln(Price)		-0.0006*** (-4.26)		-0.0004*** (-2.97)		-0.0004** (-2.26)
Ln(MktCap)		0.0043*** (24.93)		0.0042*** (22.56)		0.0041*** (18.71)
Turnover		0.0664*** (17.51)		0.0636*** (16.26)		0.0619*** (13.83)
Price Range		0.0048*** (10.37)		0.0051*** (10.25)		0.0049*** (8.91)
Constant	0.0158*** (109.18)	0.0102*** (17.12)	0.0159*** (101.37)	0.0101*** (15.64)	0.0161*** (89.96)	0.0106*** (14.70)
Adj. R ²	0.0027	0.0251	0.0025	0.0249	0.0017	0.0232
Robust SEs	Yes	Yes	Yes	Yes	Yes	Yes
N	89,602	89,602	74,153	74,153	59,026	59,026

Notes: The table reports the results from estimating a difference-in-difference regression for the six-year, five-year, and four-year periods surrounding the Honest Leadership and Open Government (HLOG) Act using pooled firm-quarter data.

$$Capex/Assets_{i,t} = \beta_1 Treat_{i,t} + \beta_2 Post_t + \beta_3 Treat_{i,t} \times Post_t + \gamma' X + \alpha + \varepsilon_{i,t}$$

The dependent variable is the ratio of capital expenditures to total assets for each firm i in quarter t . The independent variables of interest are as follows: *Treat* is an indicator equal to one if a given firm has positive lobbying expenditures during the year – zero otherwise; *Post* is equal to one for the 12 quarters around the HLOG Act (Columns [1] and [2]), 10 quarters around the HLOG Act (Columns [3] and [4]), or 8 quarters around the HLOG Act (Columns [5] and [6]) – zero otherwise; and the interaction between *Treat* and *Post*. We include the following as control variables: *Ln(Sales)* is the natural log of revenue for each firm in a given year. *Ln(Assets)* is the natural log of total assets. *Ln(Net Income)* is the natural log of net income. *D/E* is the debt-to-equity ratio. *Ln(Price)* is the natural log of the closing share price. *Ln(MktCap)* is the natural log of a firm's market capitalization. *Turnover* is the amount of total trading volume scaled by shares outstanding. *Price Range* is the difference between the natural log of the highest stock price and the natural log of the lowest stock price. T-statistics, which are obtained from robust standard errors that account for clustering across firms and years, are reported in parentheses. *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 6. Multivariate Difference-in-Difference Tests: Capital Expenditures Around the Placebo Event Quarters

	200001	200102	200202	200302	200501	201003	201101	201104	201301	201402	Average
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]
Treat	-0.0005 (-0.95)	-0.0012 (-2.33)	-0.0005 (-0.99)	6.0E-6 (0.01)	-0.0022 (-6.32)	-0.0014 (-3.15)	-0.0015 (-4.75)	-0.0018 (-5.76)	-0.0019 (-5.66)	-0.0021 (-6.37)	-0.0013 (-3.63)
Post	-0.0002 (-0.67)	-0.0030 (-12.20)	-0.0029 (-8.17)	-0.0006 (-1.95)	0.0011 (3.29)	0.0023 (4.18)	0.0026 (7.12)	0.0013 (4.19)	-0.0007 (-2.90)	-0.0020 (-8.64)	-0.0002 (-1.58)
Treat×Post	-0.0007 (-1.07)	0.0008 (1.16)	-0.0007 (-1.18)	-0.0024*** (-4.22)	-0.0003 (-0.58)	-0.0005 (-0.80)	-0.0002 (-0.26)	3.1E-5 (0.05)	-0.0004 (-0.79)	0.0006 (1.29)	-0.0004 (-0.64)
Adj. R ²	0.0140	0.0199	0.0154	0.0122	0.0149	0.0096	0.0089	0.0086	0.0174	0.0140	0.0135
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	n/a
Robust SEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	n/a
N	62,640	59,650	59,055	60,506	64,479	54,632	54,952	55,439	54,508	51,817	57,768

Notes: The table reports the results from estimating a difference-in-difference regression for the four years surrounding randomly selected placebo quarters using pooled firm-quarter data.

$$Capex/Assets_{i,t} = \beta_1 Treat_{i,t} + \beta_2 Post_t + \beta_3 Treat_{i,t} \times Post_t + \gamma' X + \alpha + \varepsilon_{i,t}$$

The dependent variable is the ratio of capital expenditures to total assets for each firm i in quarter t . The independent variables of interest are as follows: *Treat* is an indicator equal to one if a given firm has positive lobbying expenditures during the year – zero otherwise; *Post* is dummy variable equal to one for the eight quarters following a randomly selected placebo quarter – zero otherwise; and the interaction between *Treat* and *Post*. We report 10 placebo tests in Columns [1] through [10] and the average of all coefficients and t-statistics in Column [11]. In each specification, we include several control variables. $\ln(Assets)$ is the natural log of total assets. $\ln(Net\ Income)$ is the natural log of net income. D/E is the debt-to-equity ratio. $\ln(Price)$ is the natural log of the closing share price. $\ln(MktCap)$ is the natural log of a firm's market capitalization. *Turnover* is the amount of total trading volume scaled by shares outstanding. *Price Range* is the difference between the natural log of the highest stock price and the natural log of the lowest stock price. For brevity, we suppress the coefficients on the control variables. T-statistics, which are obtained from robust standard errors that account for clustering across by firms and years, are reported in parentheses. *, **, and *** denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.